Application for Certification Pursuant to 21-Day Emergency Permitting Process

CEC Power

Submitted to:

California Energy Commission

Submitted by:

CENCO Electric Company

June 22, 2001

CALIFORNIA ENERGY COMMISSION
APPLICATION FOR CERTIFICATION
PURSUANT TO THE 21-DAY EMERGENCY
PERMITTING PROCESS

1.0 PROJECT DESCRIPTION

The applicant, CENCO Electric Company (CENCO), proposes to construct a simple-cycle peaking electric generation facility consisting of one FT8 Pratt & Whitney Twin Pac, with two gas turbine engines and one nominal 50-megawatt (MW) generator. The Project, CEC Power, will be located in the City of Santa Fe Springs, Los Angeles County (Figure 1).

1.1 PROJECT OWNER/OPERATOR

CENCO Electric Company
J. Nelson Happy, CEO
12345 Lakeland Road
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Santa Fe Springs, CA 90670
(562) 944-6111 - Phone
(562) 903-8911 - Fax

1.2 OVERVIEW OF POWER PLANT AND LINEAR FACILITIES

The Project is a nominally rated 50-megawatt power plant that will utilize two natural gas-fired combustion turbine generators equipped with state-of-the-art air pollution control features. It is in response to the California initiative to bring additional power resources on-line by summer 2001.

Specifically, the Project will utilize a Pratt & Whitney FT8 Twin Pac aircraft derivative combustion turbine-generators (CTG), which have been installed in hundreds of facilities throughout the world. The Twin Pac consists of three primary units: the two gas turbine units, the single generator unit, and the single electric/control units (Figure 2). The two opposed gas turbines are directly connected to a single double-ended electric generator. The Twin Pac offers flexibility in operation, providing the ability to operate one gas turbine while the other is shut down. This results in near full-load efficiency even at half-load power. The turbine/generator and electrical control units will be housed in all-weather steel enclosures equipped with fire protection equipment and insulation for noise control.

The facility will initially be configured in simple-cycle mode so that generated energy can be dispatched quickly to meet energy demand, and will be monitored on a 24-hour basis to respond quickly to any operational issues. Given the current energy crisis, the plant is likely to run virtually continuously during the summer, and less frequently in winter. Hours of operation are expected to decrease as larger, regional plants are constructed in the coming years.

The Project will be located on CENCO Refining Company property in the City of Santa Fe Springs, within 100 feet of an existing Southern California Edison substation. The Project is consistent with the heavy industry and manufacturing activities in the area.

CENCO is currently in discussions with the California Department of Water Resources (DWR) to purchase dispatchable peaking power from this plant under a 7-year agreement. The DWR and the state of California consider it essential that additional generation resources be brought online to alleviate the state's predicted power shortfall. The power purchase agreement between CENCO and DWR for the power from the Project is expected to be finalized in July 2001. The agreement is anticipated to have provisions that will be assigned to the California Power Authority later this year.

Southern California Gas Company will supply the facility with pipeline quality low-sulfur natural gas that meets California Public Utilities Commission (CPUC) standards, thereby minimizing sulfur dioxide (SO_2) and particulate matter (PM_{10}) emissions. In addition, the Project will incorporate existing liquid fuel storage facilities at the site that will allow power generation during periods of natural gas curtailment.

The facility will utilize Best Available Control Technology (BACT) based on consideration of the most stringent federal, state and local requirements for simple cycle gas turbines. To reduce nitrogen oxide (NOx) emissions from the Project, a water injection system will initially be used, with selective catalytic reduction (SCR) technology installed within one year of initial operation. Demineralized water will be injected into the combustion turbines to help reduce NOx to under 25 ppm. This is a simple and proven method to reduce NOx emissions.

The SCR will ultimately be installed in the turbine exhaust. This system is considered to be best available control technology (BACT) for NOx, capable of reducing NOx emissions to 5 ppm. The system works by injecting ammonia vapor (NH_3) into the flue gases, which then pass through a catalyst material. The resulting chemical reaction reduces oxides of nitrogen to harmless nitrogen and water.

An oxidation-reduction catalyst will ultimately be installed to reduce CO levels to 6 ppm and volatile organic compounds (VOC) to approximately 1 ppm. An emissions monitoring system will be provided to continuously confirm that the facility's emissions are within limits.

Aqueous ammonia will be delivered to the site via a tanker truck, the operation of which is regulated by the Department of Transportation. The ammonia will be stored onsite in an aboveground tank that will be housed inside secondary containment. The containment will be designed to retain a minimum of 110 percent of the storage tank volume. In addition, polypropylene balls will be used in the secondary containment area to reduce the exposed spill surface area and minimize associated vapors. An ammonia flow control system will be used to regulate the use of ammonia. Vaporization skids will be used to heat the ammonia and inject it into the SCR system.

In addition to the containment measures listed above, a secondary containment system (deck and curbs) will be provided for each combustion turbine, generator, transformer and other related equipment to hold any accidental releases. The secondary containment areas will hold a minimum of 110 percent of the oil capacity of the equipment.

Power generated from the Project will interconnect with Southern California Edison's 66 kV transmission line located immediately adjacent to the Project, on CENCO property. The existing Edison substation that currently supplies the refinery will be utilized for the power interconnection.

1.3 STRUCTURE DIMENSIONS, PLAN AND PROFILE

The facility will be compact, consisting of modular components. The exhaust stack will be approximately 50 feet high, and indistinguishable from the existing refinery structures. Other facility components will be less than 50 feet in height. They will be placed within the approximately 1-acre Project site.

1.4 PHOTO OF THE SITE AND RENDERING OF PROPOSED FACILITY

See Figures 3 and 4 for photographs of the site. A rendering of the Project will be submitted soon.

1.5 MAXIMUM FOUNDATION DEPTH, CUT AND FILL QUANTITIES

The proposed equipment will be supported on reinforced concrete foundation mats at grade. The mat foundations will be approximately 4 feet thick for the turbines, 2 feet thick for the SCR, and approximately 1 foot thick for the ancillary equipment. Foundations will be designed to support the weight of the equipment, the wind load, the operating load, and seismic load in accordance with the 1998 California Building Code.

The site is level and will require only the removal of surplus refinery equipment and several small buildings. An estimated 3,500 cubic yards of grading (1,540 cubic yards (cy) cut and 2,028 cy fill) will be required to create the pad for the proposed facility.

1.6 CONFORMANCE WITH CALIFORNIA BUILDING CODE

The Project will be designed and constructed in accordance with industry standards and all applicable local, state and federal design standards commonly used in the design of peaking generation facilities. These include applicable sections of the California Building Code, Uniform Fire Code and CAC Titles 19 and 24. The design will encompass Zone 4 seismic standards as they pertain to the Project.

1.7 PROPOSED OPERATION

The Project is designed operate up to 8,760 hours per year, or 100% of the time. An operating log will record actual times and duration of all startups, shutdowns, quantity of fuel used, hours of daily operation, and total cumulative hours of operation during each calendar year.

1.8 EXPECTED ON-LINE DATE

The Project is expected to be on-line by September 30, 2001. It is anticipated that construction will require approximately three months.

1.9 PROPOSED DURATION OF OPERATION

The planned Project life is 50 years.

1.10 IDENTIFY TRANSMISSION INTERCONNECTION FACILITIES

The generator output will be 12.4 kV. Pending final review and approval by SCE, new step-up transformers will be installed to connect the facility to existing 66 kV power lines in the existing SCE switchyard located adjacent to the Project site at CENCO Refining Company.

1.11 TRANSMISSION INTERCONNECTION APPLICATION

A Transmission Interconnection Application for the Project will be submitted to SCE.

1.12 "DOWNSTREAM" TRANSMISSION FACILITIES

Pending further study, the Applicant expects that no new "downstream" transmission facilities will be required for this Project.

1.13 FUEL INTERCONNECTION FACILITIES

Natural gas will be supplied to the Project via an existing 10-inch natural gas pipeline, located beneath Bloomfield Avenue. This existing pipeline has adequate capacity to serve this Project. Southern California Gas Company is currently reviewing the existing connection and metering requirements. No changes to the SoCal Gas pipelines located outside the CENCO Refining Company property are anticipated. Additional gas piping will be installed within the refinery property to supply gas to the Project site via existing above ground pipe racks.

1.14 FUEL INTERCONNECTION APPLICATION

A Fuel Interconnection Application for the Project will be submitted to SoCal Gas prior to receipt of permit. See Attachment G for the SoCal Gas service letter.

1.15 WATER REQUIREMENTS AND TREATMENT

The facility will consume approximately 75 gallons per minute of water for NOx reduction and cooling tower requirements.

1.16 WATER INTERCONNECTION FACILITIES (SUPPLY/DISCHARGE)

The water source for the Project will be via a new interconnection from the City of Santa Fe Springs water system utilizing reclaimed water from the Central Basin Water District wherever possible. The water will be treated in a new demineralization system, located onsite. We are currently in discussions with Central Basin to determine reclaimed water availability.

Storm and waste water flows from the site will be directed to an existing storm or wastewater system for treatment.

1.17 SOURCE AND QUALITY OF WATER SUPPLY

As described in Section 1.16, the Project will obtain water from the City of Santa Fe Springs water system and/or reclaimed water from the Central Basin Water District. Refer to Attachment A for water quality information.

1.18 WATER SUPPLY AGREEMENT/PROOF OF WATER SUPPLY

A water supply agreement will be obtained from the City of Santa Fe Springs and/or the Central Basin Water District for reclaimed water.

2.0 Site Description

2.1 Site Address

The Project will be located within the existing oil refinery operated by CENCO Refining Company at 12345 Lakeland Road in Santa Fe Springs. The power plant will be constructed near the north property line of the refinery, adjacent to Florence Avenue, 1200 feet west of the intersection with Bloomfield Avenue.

2.2 Assessor's Parcel Number

The Project will occupy the northwest portion of parcel 8009-022-55 as shown on the Los Angeles County Assessor's map in Attachment B.

2.3 Property Owners Within 500 Feet of the Project Site

These are the property owners within 500 feet of the Project site and linear facilities are listed in Attachment E.

2.4 Existing Site Use

The power plant will be constructed on a 1-acre portion of a 99-acre site that has been an oil production field, and, since 1936, an oil refinery complex. The existing Project site is primarily vacant land. Two refinery maintenance buildings and one portable storage shed currently located on the site will be removed.

2.5 Existing Site Characteristics

The Project site currently consists of small storage and work buildings, and some paved and unpaved surplus equipment storage areas.

2.6 Layout of Site

Refer to Attachment C for a site plot plan.

2.7 Zoning and General Plan Designations of Site and Linear Facilities

The City of Santa Fe Springs General Plan designation for the site is Industrial. The zoning is M-2, Heavy Manufacturing. As of the date of this application, the proposed use is not specifically listed as either a permitted use or a conditionally permitted use in the M-2 zone. City staff has begun the process of amending the city's municipal code to designate such use as conditionally permitted, and intends to recommend that amendment to the City Council in early July. The applicant expects to reach agreement with the City of Santa Fe Springs regarding operational conditions that will satisfy local land use concerns.

2.8 Ownership of Site

CENCO Refining Company
12345 Lakeland Road
P.O. Box 2108
Santa Fe Springs, CA 90670

2.9 Status of Site Control

The applicant owns and controls the Project site.

2.10 Equipment Laydown Area - Size and Location

Areas in the 99-acre refinery will be designated for staging, equipment laydown, temporary construction trailers, and pipe fabrication activities. There are four potential laydown/storage sites on the property that are suited for equipment movement and truck turn-arounds. The area used for the Project will be determined based on refinery operations during the Project construction period.

3.0 Construction Description

3.1 Construction Schedule

PRELIMINARY PROJECT CONSTRUCTION SCHEDULE

TASK DESCRIPTION	WEEKS													
	July				August				September				Oct.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Site Preparation	●●●	●●●												
Grading			●●●	●●●										
Foundations					●●●	●●●	●●●	●●●						
Equipment Installation							●●●	●●●	●●●	●●●	●●●	●●●		
System Checkout												●●●	●●●	
Commercial Operation													☞	

Although the construction contractor will control the construction schedule, a tentative schedule has been developed for the Project. Construction is anticipated to begin as soon as the needed permits are obtained, and will last for a period of approximately three months. The Project is expected to be on-line and ready for commercial operation by September 30, 2001.

3.2 Workforce Requirements (Peak, Average)

Anticipated staffing levels for construction will vary between 25 and 80 personnel onsite at any one time. Peak staff levels (over approximately 75 people) will occur for approximately three weeks at the peak of the construction period. Over 65 people will be onsite for approximately five weeks, while fewer than 25 people will be onsite for the remaining portion of the construction period.

4.0 Power Purchase Contract

4.1 Status of Negotiations and Expected Signing Date

The applicant has begun discussions with the Department of Water Resources for a contract to purchase the power generated by the Project. A Letter of Intent between CENCO Electric Company and DWR is being drafted, with an expected signature date in July 2001. A power purchase agreement with DWR (and/or the CPA) is expected to be executed in August 2001.

5.0 Air Emissions

5.1 Nearest Monitoring Station (Location, Distance)

The SCAQMD operates two ambient air monitoring stations near the Project site. The Pico Rivera air station is located 8.9 km/5.5 miles north and the La Habra station is 10.7 km/6.6 miles east.

5.2 Self-Certification Air Permit Checklist

Refer to Attachment D*.*

5.3 Provision of a Complete Air Permit Application

The applicant will request an Administrative Order of Consent from the EPA and South Coast Air Quality Management District that will allow construction to begin prior to issuance of a Permit to Construct.

5.4 Status of Air Permit Application

An Application for Permit to Construct will be submitted to the SCAQMD by July 3, 2001.

5.5 Status of Offsets and/or Mitigation Fees

Based on estimates detailed in the Application for Permit to Construct, the Project will need to obtain these offsets prior to issuance of a permit from the South Coast Air Quality Management District:

NOx—50 tons/yr
CO—36 tons/yr
SO_2—4.4 tons/yr
PM_{10}—14.8 tons/yr.

The applicant will pursue the purchase of credits from the California Air Resources Board for new emergency power plant construction. In addition, the applicant is consulting with emissions credit brokers to obtain the required NOx credits. Because of the relative scarcity of PM_{10} ERCs for sale within the South Coast basin, PM_{10} ERCs may also be obtained by purchasing SOx ERCs at a 2:1 ratio per SCAQMD rules, or through a mitigation Project that will result in a reduction of PM_{10} emissions.

6.0 Noise

6.1 Local Noise Requirements

The noise element of the General Plan of the City of Santa Fe Springs and the city's municipal code will provide the basis for limiting noise from the facility.

6.2 Nearest Sensitive Receptor

The nearest sensitive receptors are the staff and residents of Metropolitan State Hospital and the Los Angeles Centers for Alcohol and Drug Abuse (LACADA) and Family Foundation, all located approximately 1850 feet south of the site at the nearest point. The nearest residences are located 1700 feet southwest of the facility. The nearest commercial use is opposite the Project on Florence Avenue, approximately 130 feet distant from the Project boundary.

6.3 Project Noise Level at Nearest Property Line

The noise element of the General Plan of the City of Santa Fe Springs and the city's municipal code will provide the basis for limiting noise from the facility.

6.4 Proposed Mitigation (If Required)

The Project contractor will ensure that the facility complies with the noise element of the General Plan of the City of Santa Fe Springs and the city's municipal code. This is expected by employing state-of-the-art noise reduction equipment, including acoustic enclosures and inlet and exhaust silencers. The facility will be oriented so that the noise sources are located away from the property line. If measurements show that sound levels exceed the noise standards established by the General Plan of the City of Santa Fe Springs and the city's municipal code, then an acoustic study may be performed to determine the appropriate additional sound control measures. For example, the density of trees and shrubs along the property line could be increased, or a barrier wall could be built between the turbines and the property line.

7.0 Hazardous Materials

7.1 Type and Volume of Hazardous Materials Onsite

The only potentially hazardous material associated with this project stored onsite in significant quantity will be aqueous ammonia for air pollution control. Approximately 12,000 gallons of 20% ammonia-water solution will be stored in a new aboveground tank. In accordance with best practices, the tank will be built inside a secondary containment unit designed to retain 110 percent of the tank capacity. The containment will hold plastic media which serve as a floating cover for the liquid in the event of a leak.

In addition to the quantities contained in the working equipment, approximately 1000 gallons of lubricating, turbine, and hydraulic oils would be stored. Grease, solvents, and other maintenance products routinely used in power plant operations would also be stored onsite in volumes typically less than 25 gallons. Residual materials associated with former refinery operations remain in some storage tanks at the facility.

Because the Project will be built within an existing oil refining complex, extensive planning and resources have already been dedicated to prevent spills and respond to hazardous materials incidents. Aqueous ammonia presents little health hazard in the concentration employed by the Project. The refinery historically used aqueous ammonia to safely control air pollution from several combustion devices.

7.2 Storage Facilities and Containment

Refer to Section 7.1.

8.0 Biological Resources

8.1 Legally Protected Species and Their Habitat

The Project site and associated linear facilities are located in an existing industrial facility that supports no protected species. The surrounding area is developed urban environment, which offers no habitat for such species.

8.2 Proposed Mitigation

No mitigation is proposed since there are no impacts to biological resources.

9.0 Land Use

9.1 Local Land Use Restrictions

Local land use restrictions governing development within the M-2 zone are set forth in sections 155.240 through 155.261 of the municipal code of the City of Santa Fe Springs. Attachment H contains applicable sections of the code.

9.1.1 Use

Please see section 2.7 of this application.

9.1.2 Lot Area, Setbacks, Floor Area Ratio, and Building Height

See Attachment H.

9.2 Use of Adjacent Parcels

The Project is surrounded by commercial and light industrial.

9.3 Ownership of Adjacent Parcels

Refer to Attachment E.

9.4 Demographics

The City of Santa Fe Springs has a population of 17,400 according to 2000 Census data from the California Department of Finance. 71% of the population is Hispanic, 19% is white, 4% is Black, and 4% is Asian.

10.0 Public Services

10.1 Ability to Serve Letter from Fire District

Refer to Attachment F.

10.2 Nearest Fire Station

The Santa Fe Springs Fire Department headquarters station is located 0.9 miles from the site.

10.3 On-Site Fire Protection

The refinery owns and operates a Ward LaFrance Telesquirt fire truck which is housed adjacent to the Project site. Portable equipment and fixed station, directional flow fire suppression equipment is on site. This refinery fire protection will be available to the Project at all times.

11.0 Traffic and Transportation

11.1 Level of Service Measurements on Surrounding Roads

An analysis of vehicle traffic associated with a significantly larger Project at this site showed that no increase in the level of service (LOS) at any intersection is expected. The executive summary of the Environmental Impact Report for CENCO's Refinery Upgrade Project is included in Attachment I. No significant traffic impacts due to construction or operation of the proposed Project are expected.

11.2 Traffic Control Plan for Roads During Construction Period

To minimize impacts to traffic flow, the applicant will control vehicle traffic in accordance with the *Work Area Protection and Traffic Control Manual* published by the California Joint Utility Traffic Control Committee.

11.3 Traffic Impact of Linear Facility Construction

None of the modifications to the SCE and Gas Company lines will impact traffic, as the modifications will all be conducted within the Refinery site.

11.4 Equipment Transport Route

Access to the site will be through the refinery main entrances on Lakeland Road and Bloomfield Avenue. These streets currently have heavy and constant truck traffic. No significant traffic impacts are anticipated from equipment deliveries to the site.

11.5 Parking Requirements - Workforce and Equipment

Construction personnel will park vehicles in existing parking areas at the refinery. Additional parking is available on adjacent property owned by the applicant at 10806 Bloomfield Avenue.

12.0 Water Resources

12.1 Wastewater Volume, Quality, Treatment

Wastewater will be routed to the existing wastewater handling system at the facility. Depending on the quality of the water, it could be reused within the refinery or discharged to the POTW through the existing sanitation district connection. Storm water flows will be collected in the facility's existing storm water system, before being discharged into the existing NPDES or POTW outfall.

12.2 Status of Permits for Wastewater Discharge or Draft Permit

Wastewater and storm water discharge permits associated with industrial activities during operation will not be required as the existing water handling systems are already permitted for anticipated Project flows.

12.3 Erosion Prevention and Sedimentation Control Plan

The Project will be built inside an existing oil refining complex, which is essentially level. Erosion and sedimentation control are not issues.

12.4 Spill Prevention/Water Quality Protection Plans

A current Spill Prevention Control and Countermeasures Plan exists for the refinery and is on file with the appropriate agencies. It will be updated as necessary.

13.0 Cultural Resources

13.1 Map of Known Historic/Prehistoric Sites

The Project will be located on within a 99-acre site that has been an oil production field since the early 1920's, and has been occupied by an oil refinery since 1936. No cultural resources are known to exist on this land.

13.2 Proposed Mitigation

No mitigation is proposed since no cultural resources have been identified.

14.0 Paleontological Resources

14.1 Identification of Paleontological Resources

The Project site has been heavily disturbed by a century of oil exploration and industrial activity. The potential for the occurrence of intact paleontological resources is remote.

14.2 Proposed Mitigation

In the event of a discovery of previously unknown subsurface paleontological resource, the applicant will stop work in the immediate vicinity of the discovery and retain a qualified paleontologist to ensure that measures are taken to avoid and protect, or scientifically remove and curate the specimen.

15.0 Visual Resources

15.1 Landscaping and Screening to Meet Local Requirements

The facility is landscaped and maintained in accordance with standards set by the City of Santa Fe Springs. Additional trees and shrubs will be incorporated in the existing landscape to screen views of the Project and reduce noise. The portions of the Project visible from outside the site will be indistinguishable from the existing oil refinery structures that dominate the view. No new overhead lines will be installed for the Project, outside of the Project Site/Property.

15.2 Photo of the Site and Rendering of Proposed Facility

Figures 3 and 4 are photographs of the proposed site. A rendering will be submitted when it is available.

16.0 Transmission System Engineering

16.1 Conformance with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electrical Code

The Project will conform with Title 8, High Voltage Electrical Safety Orders, CPUC General Order 95 (or NESC), CPUC Rule 21, PTO Interconnection Requirements, and National Electric Code.